



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/676,046	09/28/2000	Eugene W. Lee	3981-5	9832
20575	7590	01/21/2004		
MARGER JOHNSON & MCCOLLOM PC 1030 SW MORRISON STREET PORTLAND, OR 97205				
			EXAMINER NGUYEN, BRIAN D	
			ART UNIT	PAPER NUMBER
			2661	

DATE MAILED: 01/21/2004

3

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/676,046

Applicant(s)

LEE, EUGENE W.

Examiner

Brian D Nguyen

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on the application filed 9/28/00.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19, 22 and 24-30 is/are rejected.
- 7) ☒ Claim(s) 20, 21 and 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 September 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. Page 3, line 15, it is suggested to change "input port 29" to ---input port 28---.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "42" in line 17 of page 4. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims 19-23 and 26-30 are objected to because of the following informalities:

Claim 19, lines 5-7, it is suggested to change "all output port" to ---all output ports---.

Claim 21, line 4, "multicast group vectors" seems to refer back to "multicast group vectors" in line 3. If this is true, it is suggested to change "multicast group vector" to ---multicast group vectors---.

Claim 26, line 4, "the different input ports" and "the different output port" seems to refer back to "input port" and "output port" in lines 2 and 3. If this is true, it is suggested to change to ---the input port--- and ---the output port---.

Art Unit: 2661

Claim 29, line 7, "the same high priority" seems to refer back to "a same highest priority" in line 5. If this is true, it is suggested to change to "the same high priority" to ---the same highest priority---.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 12-13, 25, and 28-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 recites the limitation "the unicast arbitration" in line 2. There is insufficient antecedent basis for this limitation in the claim. Claim 12 should depend on claim 11 for proper dependency. The examiner assumes claim 12 depends on claim 11 for this Office Action.

Claim 25 recites the limitation "the same highest priority" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claims 28 and 29, "the virtual output queues" lack antecedent basis. "the virtual output queues" seems to refer back to "virtual output buffers" in line 8 of claim 26. If this is true, it is suggested to change "the virtual output queues" to ---the virtual output buffers---.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2661

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 1-4, 6-8, 14-18, and 24-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Fransson et al (6,445,706).

Regarding claims 1-4 and 6-8, Fransson discloses a packet scheduler comprising input ports and output ports; an arbitration circuit configured to arbitrate between the input ports and the output ports. Wherein, the arbitration circuit selects the input ports in a round robin order when two or more of the input ports have the same highest priority and a same largest weight; conducts output port arbitrations for each one of the output ports and conducts input port arbitrations for each one of the input ports winning multiple output port arbitrations; conducts output port arbitrations for all of the virtual output queues dedicated to the same output ports and conducts input ports arbitrations between the virtual output queues for the same input port issued grants during the output port arbitration; and wherein the output port arbitrations and the input port arbitrations are conducted according to both priority and number of bytes of the packets associated with the virtual output queues; and wherein the arbitration circuit increasing the

Art Unit: 2661

priority for any input ports having unserved connection requests (the time they were stored) extending beyond a timer period (see abstract; col. 1, lines 40-63; col. 2, lines 51-65).

Regarding claims 14-18 and 24-25, claims 14-18 and 24-25 are method claims that have substantially all the limitations of the respective apparatus claims 1-4 and 6-8. Therefore, they are subject to the same rejection.

Regarding claim 26, claim 26 is a device claim that has the limitations of the respective apparatus claim 10. Therefore, it is subject to the same rejection.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 5, 11-12, and 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fransson et al (6,445,706) in view of Holden et al (6,188,690).

Regarding claims 5 and 11-12, Fransson does not disclose the output port arbitrations and the input port arbitrations are conducted for both multicast and unicast packets for a next time slot and wherein the arbitration circuit conducts a multicast arbitration that establishes connections for multicast packets during a next time slot and then conducts a unicast arbitration that establishes connections for a unicast packets during the next time slot for any remaining unassigned output ports. However, multicast/unicast arbitration is well known in the art. Holden this closes this feature (see col. 2, lines 53-65). Therefore, it would have been obvious to a

Art Unit: 2661

person of ordinary skill in the art at the time the invention was made to arbitrating multicast/unicast as taught by Holden in the system of Fransson in order to control multicast and unicast traffics.

Regarding claims 27-30, claims 27-30 are device claims that includes the limitations of claims 5 and 11-12. Therefore, they are subject to the same ejection.

10. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fransson et al (6,445,706) in view of DeGrandpre et al (6,678,275).

Regarding claims 9-10, Fransson does not specifically disclose input/output port pointers for conducting round robin arbitration. However, this feature is well known in the art. DeGrandpre discloses pointers for conducting round robin arbitrations (see col. 2, lines 11-24; col. 3, lines 34-43). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the pointers as taught by DeGrandpre in the system of Fransson so that data packet can be sent orderly based on their priority/weight.

11. Claims 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fransson et al (6,445,706) in view of Dunstan et al (6,654,371).

Regarding claims 19 and 22, Fransson does not specifically the use of vector multicast. However, to use vector multicast is a matter of choice, Dunstan discloses the use of vector multicast (see col. 2, line 66-col. 3, line 11). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the vector multicast as taught by Dunstan in the system of Fransson to meet specific needs.

Allowable Subject Matter

Art Unit: 2661

12. Claims 13, 20-21, and 23 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wicklund (6,295,295), scheduler for an information packet switch.

Shahrier et al (6,556,571), Fast round Robin priority port scheduler for high capacity ATM switches.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian D Nguyen whose telephone number is (703) 305-5133. The examiner can normally be reached on 7:30-6:00 Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doug Olms can be reached on (703) 305-4703. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.



Brian Nguyen
Art Unit 2661
1/17/04